

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

ARCHITECTURAL MODELS, INC.,)
a California corporation,)
)
Appellant,)
)
v.)
)
NILS C. NEKLASON and)
DONALD NUSBAUM doing business)
as SCALE MODELS UNLIMITED,)
)
Appellees.)

APPELLANT'S OPENING BRIEF

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NO. 21,826

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APPELLANT'S OPENING BRIEF

This is an appeal from the final judgment of the District Court for the Northern District of California holding that Appellees (Defendants) had not infringed Letters Patent owned by Appellant (Plaintiff).

The case below involved a cause of action by Plaintiff for patent infringement (CT. 1)* with defenses of patent invalidity and non-infringement (CT. 7). The same issues were raised by a counterclaim (CT. 11) for declaratory judgment of patent invalidity and non-infringement. The District Court rendered judgment (CT. 52) for Defendants on these two causes by holding that the Defendants did not infringe the patent.

Though the validity issues were tried, the District Court refrained from determining the validity of the patent on the ground that the judgment of non-infringement disposed of the entire controversy between the parties concerning the patent (CT. 39).

Both parties below alleged causes of action for unfair competition (CT. 3 & 14), but these causes of action were dismissed (CT. 53), and neither party has appealed as to these causes.

This appeal, therefore, relates only to that part of the judgment which determined that Defendants had not infringed the patent.

*References to the Clerk's Transcript are designated CT. followed by page number. References to the Reporter's Transcript are designated RT. followed by page number. Exhibits are referred to by EX. followed by the Exhibit number.



JURISDICTION

Jurisdiction over the patent infringement action in the District Court was based on 28 USC §1338(a) (CT. 1) and was admitted (CT. 7). Jurisdiction over the declaratory judgment counterclaim was based on 28 USC §§2201 & 2202 (CT. 11) and was admitted to the extent of the four patent claims placed in issue by the Complaint (CT. 18).

Jurisdiction of this Court is based on 28 USC §1291. The judgment of the District Court was entered March 10, 1967 (CT. 52). Appellant filed its notice of appeal on April 5, 1967 (CT. 54) within the thirty day period provided by 28 USC §2107.

STATEMENT OF THE CASE

Plaintiff, Architectural Models, Inc., is a California corporation (CT. 40), owned primarily by two women, Virginia Green and Leila Johnston. The corporation succeeded in 1960 to a partnership of the same name which the two women had formed in 1955 after receiving their masters degrees in fine arts, (RT. 32 & 449). The partnership, the corporation,

THEORY

The following are the main points of the theory.

1. The first point is that the theory is based on the assumption that the system is in a state of equilibrium.
2. The second point is that the theory is based on the assumption that the system is in a state of equilibrium.
3. The third point is that the theory is based on the assumption that the system is in a state of equilibrium.
4. The fourth point is that the theory is based on the assumption that the system is in a state of equilibrium.
5. The fifth point is that the theory is based on the assumption that the system is in a state of equilibrium.

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The first point is that the theory is based on the assumption that the system is in a state of equilibrium.

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CONCLUSION

The following are the main points of the theory.

The first point is that the theory is based on the assumption that the system is in a state of equilibrium.

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and the two women are sometimes referred to herein collectively as Plaintiffs.

The Defendants are ex-employees of the Plaintiffs. Defendant Neklason was employed by Plaintiffs from May of 1958 until September 28, 1962 (CT. 44). Defendant Nusbaum was employed by Plaintiffs from November 1, 1961 (CT. 44) until September 28, 1962, when the Defendants terminated their employment to start their own business (EX. XX & YY).

During the early part of 1960, the Plaintiffs invented a machine for making topographical models, and the patent which they obtained on that machine is the subject matter of this suit (EX. M). During the period of his employment by Plaintiffs, Defendant Neklason was the principal user of that machine (RT. 217).

THE INVENTION

The models which Plaintiffs have made throughout the period of their business are small scale models which are used by architects and developers to illustrate proposed buildings (EX. V). For artistic reasons, the models are

generally provided with small scale models of trees, people, automobiles, and the like, made on the same scale as the building model, and all of these models are mounted on a scale model of the land on which the building is to be built (EX. V). The land model is called a topographical model because it is shaped in three dimensions with hills and valleys in accordance with the topography of the land (RT. 34). Prior to 1960, Plaintiffs had been making their topographical models by several tedious methods (RT. 35-37).

In the spring of 1960, Plaintiffs decided to try to cut their topographical models directly out of solid blocks of plastic foam (EX. WW & RT. 239-244). They knew at that time that plastic foam models had been made and that machines were available for cutting such models (CT. 27). The machines that were available, however, were very complex. Plaintiffs considered using a pantograph, but they rejected that idea because they believed that the long linkage arms in a pantograph would be too cumbersome in the large size machine they needed (RT. 239-240).

June 16, 1964

V. GREEN ET AL

3,137,209

APPARATUS FOR MAKING TOPOGRAPHICAL MODELS

Filed July 27, 1961

2 Sheets-Sheet 2

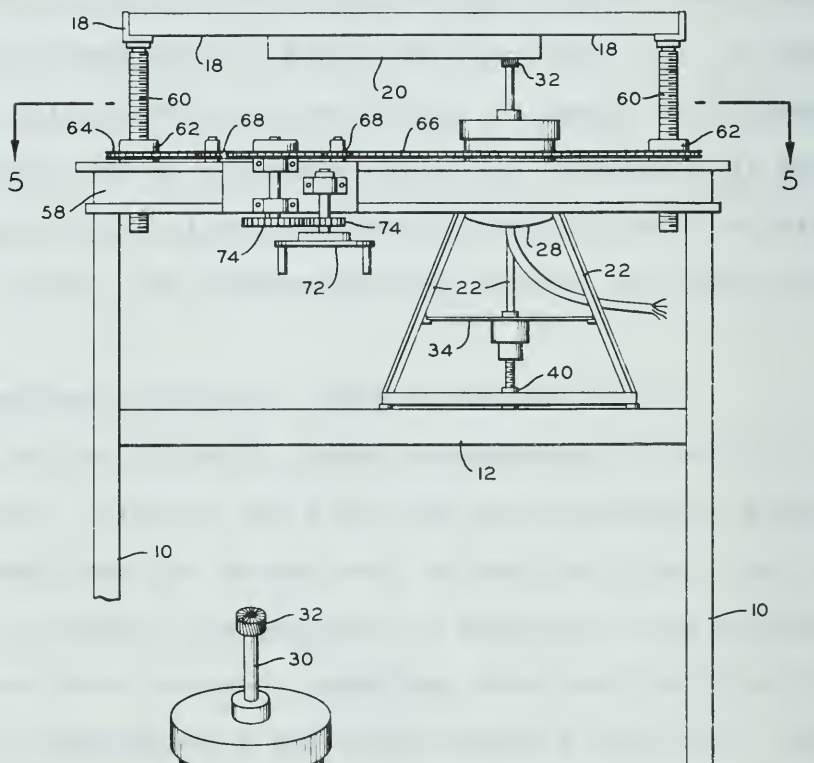


FIG. 3.

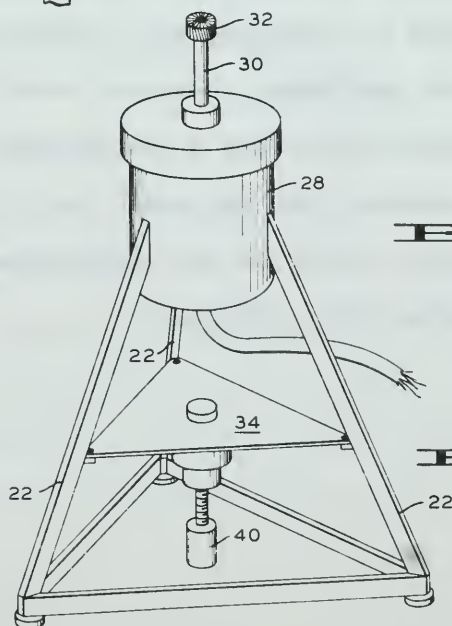


FIG. 4.

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BY

Naylor & Neal

ATTORNEYS

The first machine that Plaintiffs devised is shown in Figs. 3 and 4 of the patent in suit which are reproduced on the facing page (EX. HH & M). This machine includes a frame with four legs numbered 10 which support a flat table 12. An overhead frame 18 is mounted above the table 12, and a block of plastic 20 is suspended from the frame 18.

A router assembly, shown in Fig. 4, slides freely in any direction on the table 12 underneath the plastic 20. The router assembly has a cutting tool 32, driven by an electric motor 28, and a stylus 40.

This machine is used to cut a topographical model upside down. The plastic 20 from which the model is to be cut is mounted overhead on the frame 18, and a map of the land is mounted on the table 12 underneath the router assembly. With the machine arranged in this way, the cutting tool 32 will cut into the plastic 20 above at a location which is determined by the position of the stylus 40 near the map on the table (EX. M).

Now, the map which is mounted on the table is a topographical map which contains contour lines representing

paths of equal elevation on the land. If a man were to walk on the land along a path represented by a contour line on the map, he would walk along a level path, neither going up-hill nor down-hill (RT. 34). When the machine is used to cut a model, an operator moves the router assembly of Fig. 4 around the table 12 while following a contour line on the map with the stylus 40. As the stylus 40 follows the contour line, the cutter 32 directly above the stylus cuts a flat shelf in the plastic 20 which has the same shape as the contour line (RT. 44-49).

Every topographical map has a large number of contour lines representing paths of different elevation on the land. An adjustment is made on the machine before each new contour line on the map is followed with the stylus 40 so that the cutting tool 32 cuts into the plastic 20 to a different depth for each contour line. These depth-of-cut adjustments are made in the machine of Figs. 3 and 4 by jack screws numbered 60, a chain and sprocket mechanism 66 - 62, and a hand wheel 72 (RT. 44-49).

The machine is used progressively in this way, following one contour line with the stylus 40, then changing



the depth of cut of the cutter 32, then following another contour line, etc. until the cutter has formed large hills in the plastic 20 from a large number of small steps. One of Plaintiffs' machines is illustrated on the facing page with a model partially completed.

THE REVERSE PRINT PROBLEM

Referring again to Fig. 3 of the patent, it will be noted that the model 20 being made and the map on the table 12 are facing toward each other like a man and his image in a mirror. After a model has been made upside down on the machine, it is taken down and turned rightside up. The rightside up model will be a mirror image of the map which the operator saw while operating the machine. By analogy, if we could take the man's image out of the mirror and turn it around and put it beside the man, the man's right eye would be the image's left eye. The problem of mirror images is one we see every time a color slide is placed in a projector backwards.

The mirror image problem is inherent in Plaintiffs' machine because the work piece 20 and the table 12 face

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toward each other. The solution to the problem is simple, however, since a proper model will be cut if the map which the operator sees on the table is a mirror image of a topographical map.

The problem and solution were explained in the patent in suit, Exhibit M, Column 1, Lines 63-66, "Since the work is formed on the machine in an upside down position while the map is supported rightside up, a reverse print of a conventional topographical map should be used." A reverse print is a mirror image of a conventional right reading print (RT. 94) as illustrated on the facing page. Where the paper on which a topographical map is made is transparent, as where the map is drawn on tracing paper, the mirror image, i.e. reverse print, of the map can be seen by looking at the map from the back of the paper (RT. 95-96). In some situations where Plaintiffs' machines have been used, a special reverse print has not been made, and instead, the topographical map has been mounted on the table 12 face down so that the operator sees the map like a reverse print (RT. 95-96).

PLAINTIFFS' IMPROVED MACHINE

As indicated above, a vertical adjustment must be made in the machine to change the depth of cut of the tool 32 when the operator moves from one contour line to the next. In Plaintiffs' first machine shown in Figs. 3 & 4 of the patent, this adjustment was made by raising and lowering the entire upper frame 18 and model 20 with the four jack screws 60.

After Plaintiffs tried out their first machine, they conceived of a better way to make the vertical adjustment and that was by moving the cutting tool 32 up instead of moving the frame 18 down (RT. 54-60). This permits the accurate vertical adjustment to be built into the small compact router assembly instead of the main frame of the machine (EX. M, Col. 3, Ll. 12-19).

One form of this improved machine is shown in Figs. 1 & 2 of the patent which are reproduced on the next facing page. That machine, like the first machine has a frame 10, map table 12, and overhead frame 18. No accurate vertical adjusting means is provided for adjusting the

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APPARATUS FOR MAKING TOPOGRAPHICAL MODELS

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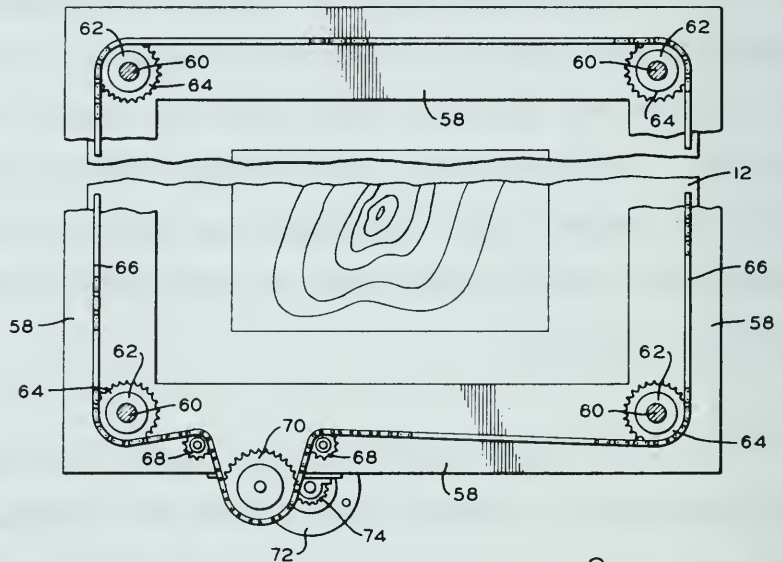


FIG. 5.

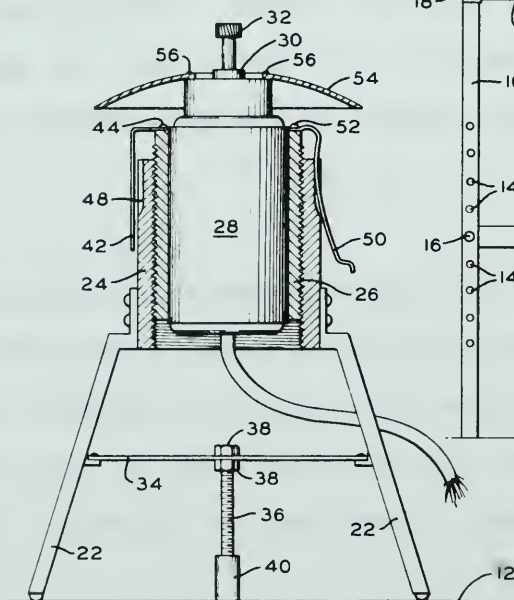


FIG. 2.

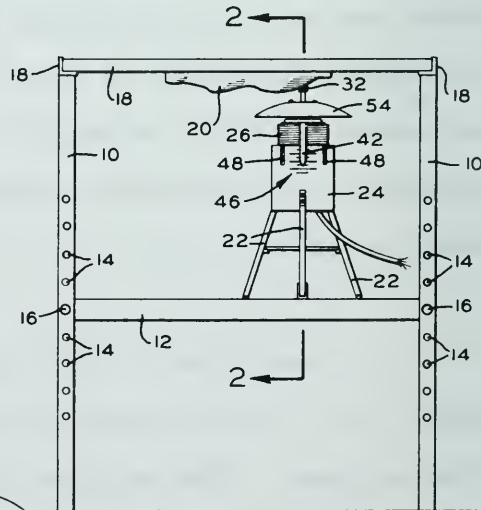


FIG. 1.

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ATTORNEYS

height of the frame 18. Instead, the cutting tool 32 may be moved up and down in the router assembly by screwing externally threaded sleeve 26, which fixedly carries the router motor 28, up and down inside a threaded sleeve 24 of the router assembly (EX. M). The machine shown in Figs. 1 & 2 has never been built by Plaintiffs (CT. 43).

While the patent shows in Figs. 1 & 2, one form of vertical adjustment in the router assembly, that is, a screw threaded arrangement, Plaintiffs have conceived of other structures for the same purpose. Before the patent application was filed they considered using a rack and pawl for the vertical adjustment in the router assembly (EX. O, RT. 56-60). After the patent application was filed, and before the present controversy arose, they considered using and did use a rack and pinion as a vertical adjustment in the router assembly of their second machine (EX. 28, PP. 18-21). The second machine is the machine shown in the photograph facing page 8 (EX. II). That machine contains a vertical adjustment of jack screws in the main frame, similar to the first machine, but it also includes the rack and pinion adjustment in the router assembly (EX. 28, PP. 18-21).

PLAINTIFF'S PATENT

As indicated above, the patent in suit (EX. M) discloses two forms of model making machine, the machine of Figs. 3 & 4 having an accurate vertical adjustment in the main frame of the machine, and the machine of Figs. 1 & 2 having an accurate vertical adjustment in the router assembly.

The patent contains three groups of claims, namely (A) claims directed toward the type of machine shown in Figs. 1 & 2 of the patent, (B) claims directed toward the type of machine shown in Figs. 3-5 of the patent, and (C) claims which are generic to both types of machines. Plaintiff has charged the Defendants with infringement of only four claims in the patent, namely Claims 4, 5, 11 and 14, and all four of these claims relate specifically to the type of machine which has the accurate vertical adjustment in the router assembly (see Findings 33 and 34 at CT. 48 & 49). The details of these claims are mentioned in greater detail below.

Dec. 21, 1965

D. W. NUSBAUM ETAL

3,224,339

METHOD AND APPARATUS FOR CUTTING TOPOGRAPHIC MODELS

Filed Dec. 16, 1963

2 Sheets-Sheet 1

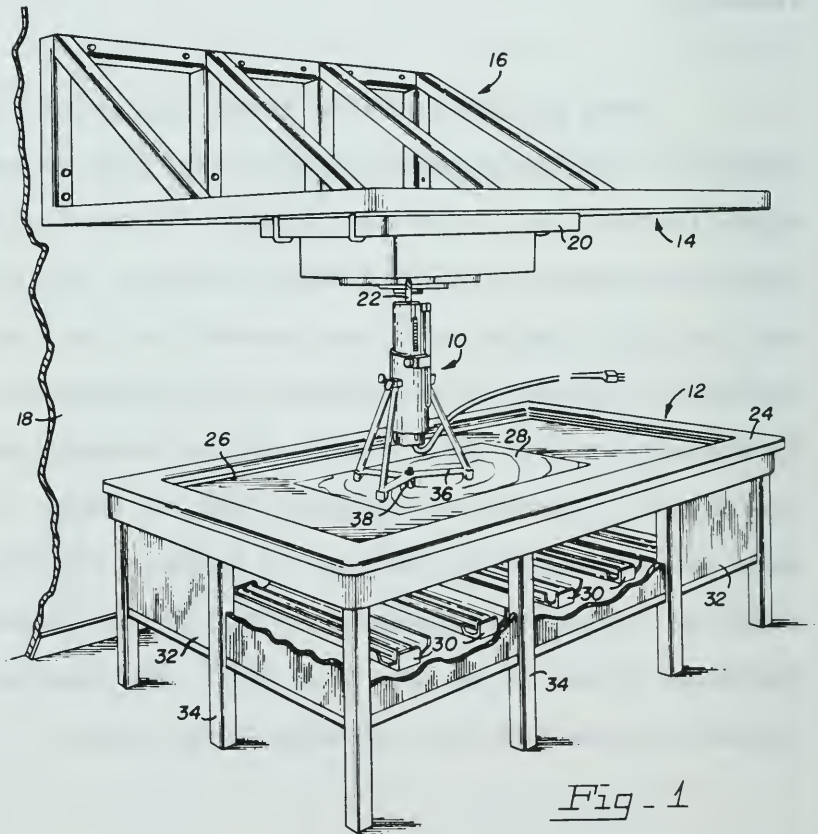


Fig - 1

INVENTOR

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BY

Harvey S. Fowles

THE DEFENDANTS' MACHINE

The Defendants' machine which is alleged to infringe Plaintiff's patent is shown in the Defendants' patent (EX. 8, Fig. 1 of which is identical to EX. Q).

The Defendants' machine is illustrated on the facing page and that machine includes, a table 12 with an overhead frame 14 supported above the table by mounting the frame 14 on the wall of the building 18. A block of plastic foam 20 is suspended upside down from the overhead frame 14, and a topographical map 28 is mounted on the table 12 directly below the plastic 20.

A router assembly 10 rides on the table 12 and carries a stylus 38 which is used to follow lines on the topographical map and a cutter 22 driven by an electric motor for cutting into the plastic 20 at a location which is determined by the location of the stylus 38 near the map below. The router assembly 10 includes a rack and pinion mechanism (illustrated in greater detail in other figures of the patent) which may be manipulated to change the

depth by which the cutting tool 22 cuts into the plastic 20 (CT. 24 & 25).

The Defendants' machine operates in substantially the same way as Plaintiff's machine (RT. 85-96). Defendants claim that their machine does not use a reverse print of a topographical map because their table 12 is a "light table" in which the table top 26 is transparent and is illuminated from below by lights 30. The Defendants say that their map 28 is a right reading print of a map mounted face-down instead of a mirror image print mounted face-up. The map 28 on the Defendants' machine must be mounted in such a way that the operator sees it as a reverse print because the map table 12 and the work holding frame 14 are facing in opposite directions, just as in Plaintiff's machine to create inherently the mirror image problem. The Defendants mount a right reading print face down so that it will look to the machine operator like a reverse print because the machine operator must see the map as a reverse print to cut a proper model (RT. 654).

Before the Defendants used the machine shown in their patent, they used an earlier form of machine which was

identical as far as the construction of the router assembly and the overhead frame 14 are concerned. The earlier machine differed from the machine in the Defendants' patent in that the earlier machine had a standard opaque table in place of the light table 12 (CT. 25). When the Defendants used the earlier machine with the opaque table instead of the light table, they used a reverse print of the topographical map on the opaque table in the same way that Plaintiff uses a reverse print (RT. 647 & 648).

The Defendants claim that they avoid infringement of Plaintiff's patent because the rack and pinion mechanism employed in their router assembly is not the equivalent of the screw threaded mechanism shown in Figs. 1 & 2 of Plaintiff's patent. The Defendants claimed at one time that they had invented the entire concept of providing vertical motion in the router assembly instead of the main frame of the machine (EX. N). Defendant Neklason was asked about his state of mind at the time he "invented" the use of the rack and pinion, and he testified as follows:

"Q. Did you feel that the rack and pinion adjustment was new because of the fact that it was a rack and pinion or because of the

fact that it provided the vertical adjustment of the machine in the router assembly?

"A. We felt it was new because it provided the vertical adjustment in the machine. The rack and pinion idea itself is an old idea.

"Q. And you felt that provision of the vertical adjustment in the router assembly was your idea?

"A. Yes, sir." (RT. 626 & 627)

The Defendants thus admitted that the rack and pinion itself is old and the important feature of the Defendants use of a rack and pinion is the fact that the rack and pinion provides a vertical adjustment in the router assembly which is the same feature disclosed in Figs. 1 & 2 of Plaintiff's patent.

THE CLAIMS IN SUIT

As indicated above, Plaintiff has sued on only Claims 4, 5, 11 and 14 of its patent. All four of these claims relate to the type of machine in which the vertical accurate adjustment is provided in the router assembly instead of the main frame of the machine. Claims 4 and 5 re-

late to the overall machine including the map table, overhead frame, and router assembly whereas Claims 11 and 14 relate to the router assembly itself.

The texts of the four claims in suit are reproduced in Appendix I with the claims broken down into sub-paragraphs with each of the separate structural elements of the machine defined by the claim set forth in a separate paragraph. A fold-out sheet is attached to this Brief as Appendix II presenting in side-by-side relation the drawings illustrating the Plaintiff's and the Defendants' machines with text material indicating the numbers on the drawings designating the parts recited in the claims.

THE FILE HISTORY

The District Court's opinion was based in part (Finding No. 10, CT. 41) upon a supposed implied agreement between Plaintiffs and the Patent Office concerning the scope of the claims in Plaintiffs' patent. Thus, the District Court found in Finding No. 10 that a holding that the Defendants' machine infringed the patent claims would "give these claims a broader scope than represented to and understood by the Patent Office. . ."

The file history of Plaintiffs' patent (EX. 2) constitutes the correspondence between the Patent Office and Plaintiffs' attorneys which preceded the issuance of Plaintiffs' patent. The file history indicates that the application for the patent (EX. 2, P. 1) was filed on July 27, 1961. On August 30, 1962, the Patent Office issued a letter (EX. 2, P. 19) in which the Examiner rejected the broad claims in the application and required restriction of the application to one of the two machines shown in the patent. Plaintiffs filed a response to this rejection (EX. 2, P. 21), and the Patent Office then issued a second rejection (EX. 2, P. 25) on July 10, 1963 again rejecting all of the claims in the application.

As indicated below, Plaintiffs learned shortly after this rejection that the Defendants were using their machine, and about the end of August, 1963, one of the attorneys for Plaintiff personally interviewed the Patent Office Examiner handling the application in an attempt to convince the Examiner to allow the application. No agreement on the allowability of the application was reached at that interview (EX. 2, P. 29), and on about September 9, 1963, Plaintiff filed a formal response to the second re-

jection (EX. 2, P. 28). In this second response, Plaintiffs amended the claims in the application to recite that the topographical map which the table of the machine was "adapted to support" was a "reverse print".

Following this amendment the Examiner issued a third and final rejection (EX. 2, P. 40) rejecting all of the claims in the application.

After this final rejection, Plaintiff did not amend the claims further in any way, but instead proceeded to appeal from the Examiner's decision to the Board of Appeals of the United States Patent Office. At that time, Plaintiff was aware of the Defendants' activities as indicated below, and for this reason, Plaintiff attempted to take advantage of a "special" procedure in the Patent Office. An appeal to the Patent Office Board of Appeals is normally quite time consuming, but in certain circumstances, the Patent Office will treat patent applications as being "special" and take up those applications for examination out of turn so that the normal Patent Office delays are avoided. One of the grounds on which the Patent Office will make an application special is the ground of "infringement", that is where some third

party is using the invention which the applicant is attempting to patent and the applicant files a petition for special prosecution to permit the applicant's patent to issue without delay.

Following the Examiner's final rejection, Plaintiffs filed a petition to make special (EX. 2, P. 43) and the affidavits which normally are required to support such a petition. These affidavits included an affidavit of Leila M. Johnston (EX. 2, P. 45) with an attached sketch describing the Defendants' machine to the Patent Office and an affidavit of Plaintiff's patent attorney (EX. 2, P. 48) stating that in his opinion, some of the claims in the application were unquestionably infringed by the Defendants' device.

On the basis of these representations to the Patent Office that the present Defendants were infringing claims in the application, the petition to make special was granted by the Patent Office Board of Appeals (EX. 2, P. 73). The claims in the application were not changed after the petition to make special was filed telling the Patent Office that the claims were infringed by the Defendants' machine.

At the time the petition to make special was filed, Plaintiff also filed an appeal from the Examiner's final rejection to the Patent Office Board of Appeals (EX. 2, P. 51) together with Appellant's Brief on Appeal (EX. 2, P. 52). The next action by the Patent Office on the merits of the application after filing of applicant's Brief was the Patent Office Notice of Allowance (EX. 2, P. 76) by which the Patent Examiner formally allowed the application.

The District Court in Finding No. 10 quoted a passage from Plaintiff's Brief on Appeal to the Patent Office Board of Appeals. This passage is the paragraph which starts at the bottom of page 62 of EX. 2 and is one paragraph out of the sixteen page Brief on Appeal. In order to understand the argument which Plaintiff's attorney was making in that paragraph, it is necessary to examine the Shaver patent (EX. 3B) upon which the Patent Examiner was relying in rejecting Plaintiff's application.

The Shaver patent employed a table 14 for supporting a topographical map (right reading print) with a stylus 48 on top of the table which was used to follow the lines on the map. The Examiner had rejected Plaintiff's patent application (EX.

P. 40) on the ground that it would be obvious (hence unpatentable) to modify the Shaver device by placing the stylus 48 underneath the map and table 14 instead of on top of the map and table as Shaver had constructed his machine. The paragraph quoted by the District Court from Appellant's Brief was an argument made in response to this rejection of the Patent Examiner. Plaintiff's attorney was arguing that the modification of the Shaver machine by mounting the stylus underneath the table would not work because it would be impossible to see the stylus and map at the same time when they were on opposite sides of the table. The attorneys argument that the Shaver machine would have to be modified even further after it was modified as proposed by the Examiner provides no evidence that Plaintiff relinquished patent protection on machines with a transparent table; the argument merely indicates that Plaintiff contended that some unobvious (hence patentable) modification of the Shaver device needed to be made in order to convert the Shaver device into the Plaintiff's machine. The identical argument would have been appropriate whether or not the claims made mention of "reverse print".

SPECIFICATION OF ERRORS

Plaintiff relies on the following specification of errors in this appeal:

1. The trial court erred in concluding that Claims 4, 5, 11 and 14 of the patent are not infringed by Defendants.

2. The trial court erred in concluding that Claims 4 and 5 require the use of a reverse print which is not required or used in Defendants' device.

3. The trial court erred in holding that the Defendants do not use a reverse print in their machine.

4. The trial court erred in finding that to give the patent claims a broader scope than the court gave those claims would be to give those claims a broader scope than represented to and understood by the Patent Office. In this regard, Plaintiff contends that Finding of Fact No. 10 is inconsistent with Finding No. 9 and is clearly erroneous. Plaintiff did not represent to the Patent Office that the Defendants' machine or any similar machine was outside the scope of the patent claims. To the contrary, it was expressly represented to the Patent Office by way of affidavits that the machine of these Defendants "unquestionably infringed" the claims.

5. The trial court erred in finding that the rack and pinion construction of Defendants' machine is not the equivalent of the screw-in type construction of Fig. 2 and Claim 11 of the patent. In this regard, Plaintiff contends that purported Finding of Fact No. 13 is not only clearly erroneous but that it is not a Finding of Fact, being instead a Conclusion of Law. The screw-in type construction and the rack and pinion construction are both old and well known devices which have been used interchangeably for centuries and are the full equivalents of each other.

6. The trial court erred in finding that Claim 14 of the patent is no broader in scope than Claim 11 and that Defendants do not employ the structure of Claim 14.

7. The trial court erred in looking to Claim 11 for the meaning of Claim 14.

8. The trial court erred in holding that Plaintiff's patent is no more than a paper patent since Plaintiff's first machine illustrated in Exhibit HH is similar to the machine shown in Figs. 3-5 of the patent and has been made and used commercially, and Plaintiff's second machine illustrated in EX. II and containing the rack and pinion described at EX. 28, PP. 18-21 is similar to the machine shown in Fig. 2 and has been made and used commercially.

ARGUMENT

Summary

The District Court's decision (CT. 31) shows that the infringement issues break down into two basic problems, the reverse print problem and the equivalency problem. Claims 4 and 5 were held not infringed because of the reverse print problem, and Claims 11 and 14 were held not infringed because of the equivalency problem. On the first pair of claims, the District Court held that (1) a reverse print is an essential part of Claims 4 and 5, and (2) the Defendants do not employ a reverse print. Plaintiff submits that both of these holdings are clearly erroneous.

On the second pair of claims, the District Court held that (1) the rack and pinion structure of the Defendants' machine was not the equivalent of the screw-in construction of Claim 11, and (2) that the broader Claim 14 was limited to the scope of Claim 11. Plaintiff submits that the first of these holdings is clearly erroneous, and that the second of these holdings is a conclusion which is erroneous as a matter of law.

The first part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The second part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The third part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The fourth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The fifth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance.

The sixth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The seventh part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The eighth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The ninth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance. The tenth part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of academic interest but also of practical importance.

The Reverse Print Is Not Part Of The Patented Machine, But Merely Relates To The Manner In Which The Machine Is Used.

One of the structural elements of the invention as defined in Claim 4 is "a generally horizontal table thereon (on the frame) adapted to support a reverse print of a topographical map representing the model which is to be made." By this express language, the table is part of the apparatus which Plaintiffs patented, and the topographical map or a reverse print of the map is not a part of the invention. Instead, the reverse print of a topographical map relates to the manner in which the patented machine is operated; that is, when the machine is operated, the operator places a reverse print of a topographical map on the table of the machine because the operator must see a reverse print, i.e. mirror image, of the map while he operates the machine. The machines shown in Plaintiff's and Defendants' patents are the same in this respect. The operator of both machines must see a mirror image of the map. In both machines, the map supporting table and overhead frame are facing toward each other so that the model which is cut will be a normal image of the mirror image map which the operator sees.

These facts are undisputed, and, as indicated above, the Defendant Neklason testified that a right reading print is mounted face down on the Defendants' table so that the machine operator will see a reverse print of the map.

Since the evidentiary facts are not in dispute, the Court's holding at CT. 33 that "Defendants do not employ such a reverse print" can be reversed. See Hansen v. Colliver, 282 F.2d 66, 69, 127 USPQ 32, 34 (9th Cir., 1960), where the Court said:

"Normally the question of infringement is one of fact. In this case, however, since the facts are not in dispute the question of infringement resolves itself into one of law, depending on a comparison between the patent claim in issue and the accused device, and the correct application thereto of the law of equivalency."

It will be recalled that the Defendants built two machines the first of which was identical to the machine shown in the patent except that it had an opaque table in place of the light table, and the Defendants' first machine was operated in exactly the same way as the Plaintiff's machine with a reverse print of the topographical map mounted

on the opaque table. When these two machines of the Defendants are compared, it is seen that the Defendants' first machine employed the entire structure and mode of operation of Plaintiff's machine, and Defendants' later development of the light table merely added a new feature to the machine in addition to all of the features of Plaintiff's machine which were already in the Defendants' first machine.

Thus, the Defendants' addition of the lights in the table merely helps the Defendants see through the paper on the table (the well-known function of a light table) to help the operator of the Defendants' machine see the reverse print of the topographical map through the paper. While this improvement may have been worthwhile and may have justified the allowance of a later patent to the Defendants, the law is well established that a late comer in the field does not avoid infringement by adding improvements, patentable or unpatentable to the inventions already made by his predecessors. As this Court said in No-Joint Concrete Pipe Co. v. Hanson et al, 344 F.2d 13, 15-16, 144 USPQ 519, 521 (9th Cir., 1965).

"That appellees may have found and patented an improved method of compacting concrete around the core does not preclude their one-

piece core from being the mechanical equivalent of appellants two-piece core."

In that case, the District Court's judgment that the patent was not infringed was reversed.

The fallacy of the District Court's decision in this case is indicated by the conflict between Findings of Fact Nos. 9 and 10. By Finding No. 9, the Court found that "literally, any table, including the lower table of Defendants' apparatus, is adapted to support a reverse print of a topographical map." The Court acknowledges that the Defendants' table fully satisfies the structural requirements of Claim 4 because the Defendants' table performs all of the functions performed by Plaintiff's table. The Defendants' table is adapted to support a reverse print, and where a reverse print is placed on the Defendants' table, the Defendants' machine operates exactly the way Plaintiff's machine operates. The lights in Defendants' table do not take away from the table any function of the table in Plaintiff's patent, and therefore, even though the Defendants may have added some feature to the patented invention, they have incorporated the entire patented invention into their machine.

Finding No. 10 is in fact inconsistent with Finding No. 9 since Finding No. 9 has stated in effect that the table and not the reverse print is a physical part of the machine invented by Plaintiffs, but Finding No. 10 comes to the opposite conclusion based on arguments that Plaintiffs represented to the Patent Office and the Patent Office understood that the reverse print itself was a physical part of the invention.

Plaintiff submits that Finding No. 10 is clearly erroneous since Plaintiff expressly represented to the Patent Office that the machine of these Defendants infringed the claims.

The argument of Plaintiffs' counsel quoted in Finding No. 10 does not reinforce a narrow construction of Claim 4 because the argument was not intended to imply that a transparent table and map could not be used in Plaintiff's invention. The argument was advanced to show that the rearrangement which the Patent Office Examiner proposed to make out of the structure of the Shaver patent would not work without a transparent table because the map and stylus which were on opposite sides of the table could not be seen at the same time.

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The use of a reverse print in Plaintiff's machine was an important factor in distinguishing the way in which Plaintiff's machine was used from the way in which the Shaver machine was used, but the use of the Defendants' machine distinguishes from Shaver in the same way. When the Shaver machine was used to make a topographical model, the operator of the machine saw a right reading print of the topographical map because the map supporting table and the model being made were facing in the same direction. However, when the Plaintiff's machine is used, and when the Defendants' machine is used, the operator sees a reverse print.

The Defendants Do Employ A Reverse Print In The Same Way That Plaintiffs Do.

The finding of the District Court that the Defendants do not use a reverse print because they mount a right reading print face down is clearly erroneous. As indicated above, the Defendants mount a right reading print face down for the purpose of permitting the machine operator to see a reverse print. Additionally, many topographical maps (up to 25% of the maps delivered to Plaintiff) are prepared in a manner that permits the map to be seen from both sides of the paper or plastic on

which it is prepared. When viewed from one side of the paper, the map may be a right reading print, but when viewed from the other side of the paper it is a reverse print. When the Defendants say they are mounting a right reading print face-down instead of mounting a reverse print face-up, they are saying that they call the map a right reading print because they have looked at the underside of the paper before they place it on the machine but that it is not a reverse print even though the operator operating the machine sees it as a reverse print.

The Rack And Pinion Structure Is The Equivalent Of A Jack Screw

Claim 11 is directed to the adjustable router assembly itself apart from the rest of the machine. This claim is limited in its wording to (a) an internally threaded sleeve such as the sleeve 24 in Fig. 2 of the patent, and (b) an externally threaded motor which is threaded into the sleeve as shown at 28 in Fig. 2, such being the means for effecting vertical adjustment by screwing the motor down or up out of the sleeve.

Plaintiff has contended that the Defendants' machine meets the literal terms of this claim because the sleeve 46

(Fig. 4 of EX. 8) in the Defendants' machine has threads in the form of the teeth on pinion gear 70 which project to the interior of the sleeve thereby making the sleeve an internally threaded sleeve though it is threaded in only one local area. The motor 60 is externally threaded by means of the teeth 52 on the rack gear though the "threads" on the Defendants' router assembly extend only along the length of the router housing and do not extend completely around the circumference of the housing.

Quite apart from the question of whether or not the Defendants' rack and pinion meets the literal terms of Claim 11, it is respectfully submitted that the Defendants' rack and pinion is the full mechanical equivalent of the screw threaded arrangement recited in the claims so the Defendants must be held to infringe the claim under the Doctrine of Equivalents.

The classic case on the Doctrine of Equivalents is Graver Tank & Mfg. Co, Inc., v. Linde Air Products Co., 339 U.S. 605, 85 USPQ 328 (Sup.Ct., 1950). Mr. Justice Jackson, speaking for the majority, applied the Doctrine of Equivalents to find infringement of patent claims. At the

outset of his opinion, Mr. Justice Jackson explained the Doctrine of Equivalents as follows:

"In determining whether an accused device or composition infringes a valid patent, resort must be had in the first instance to the words of the claim. If accused matter falls clearly within the claim, infringement is made out and that is the end of it.

"But courts have also recognized that to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing. Such a limitation would leave room for--indeed encourage--the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law. One who seeks to pirate an invention,

like one who seeks to pirate a copyrighted book or play, may be expected to introduce minor variations to conceal and shelter the piracy. Outright and forthright duplication is a dull and very rare type of infringement. To prohibit no other would place the inventor at the mercy of verbalism and would be subordinating substance to form. It would deprive him of the benefit of his invention and would foster concealment rather than disclosure of inventions, which is one of the primary purposes of the patent system.

"The doctrine of equivalents evolved in response to this experience. The essence of the doctrine is that one may not practice a fraud on a patent. Originating almost a century ago in the case of *Winans v. Denmead*, 15 How. 330, it has been consistently applied by this Court and the lower federal courts, and continues today ready and available for utilization when the proper circumstances for its applica-

tion arise. 'To temper unsparing logic and prevent an infringer from stealing the benefit of an invention'¹ a patentee may invoke this doctrine to proceed against the producer of a device 'if it performs substantially the same function in substantially the same way to obtain the same result.' Sanitary Refrigerator Co. v. Winters, 280 U.S. 30, 42 [3 USPQ 40, 44]. The theory on which it is founded is that 'if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form, or shape.' Machine Co. v. Murphy, 97 U.S. 120, 125. The doctrine operates not only in favor of the patentee of a pioneer or primary invention, but also for the patentee of a secondary invention consisting of a combination of old ingredients which produce new and useful results, Imhaeuser v. Buerk, 101 U.S. 647, 655, although the area of equivalence may vary under the circumstances." 339 U.S. 607-608, 85 USPQ 330.

The District Court below held that Claim 11 of the patent was entitled a "most meager range of equivalents" because of the District Court's understanding that "Plaintiff has never incorporated the principle of vertical adjustment of the router assembly in a working model." See the last paragraph at CT. 35. The District Court's factual basis for this holding was, however, inaccurate. While the fact was not stressed by either party at the trial, Plaintiff's second machine which is shown in the photograph facing Page 8 of this Brief includes a rack and pinion which provide a vertical adjustment in the router assembly. The machinist who made that machine so testified at EX. 28, Pp. 18-21, and both of the attorneys for the Defendants have examined that machine. Thus, the District Court was in error in the factual premise on which the "most meager range of equivalents" was based.

In fact, the jack screw shown in Fig. 2 of Plaintiff's patent and the rack and pinion employed in the Defendants' machine are the full equivalents of each other. Both devices are centuries old and have been used interchangeably in many environments. Plaintiff did not invent the screw arrangement shown in Fig. 2, and Defendants did not invent the rack and pinion. As indicated above, Defendant Neklason

testified that the importance of the rack and pinion in Defendants' machine was the fact that it provided a vertical adjustment of some kind in the router assembly and the rack and pinion itself was old. See also, Encyclopedia Britannica, William Benton, Publisher (1958), Volume 12, Page 850, where the entry under the term "JACK" includes inter alia the following:

"There are many different applications of "jack" to certain levers and other parts of textile machinery; the principal mechanical application of the word, however, is to a portable hand-worked appliance for raising weights from below. Jacks range in power from a few hundred weights to 500 tons; the simple type is a crow-bar pivoted in an upright frame, giving a direct and rapid lift. To this simple pivoted lever have been added a screw turned by a tommy-bar, ratchet devices, pinion and rack, etc., for increasing power or rapidity of action; and special forms have been evolved for use with motor cars, tram-cars, cable-drums, locomotives, railway and tram rails, ships, etc." (Emphasis added)

In the Plaintiff's and Defendants' machines, the screw threaded arrangement and rack and pinion perform substantially the same function in substantially the same way to obtain the same result. That is, the two devices operate to change the depth of cut of the cutting tool by rais-

ing and lowering the router motor to provide an accurate vertical adjustment in the router assembly itself, Under these circumstances, the Doctrine of Equivalents must be applied to find infringement. See: Hansen v. Colliver, 282 F.2d 66, 127 USPQ 32 (9th Cir., 1960) where Judge Jertberg said at 127 USPQ 34; (282 F.2d 69)

"In our view the proper construction of claim 1 requires a 'guide' but does not require a guide of any specified shape or form or that the rope shall be guided by any particular means. While we are inclined to disagree with the view of the district court that the table top of the appellees' device is not a guide and therefore does not literally infringe appellant's patent, we are wholly satisfied that the undisputed facts compel the application to this case of the doctrine of equivalents. The doctrine is applicable if the accused device performs substantially the same function in substantially the same way to obtain the same result as that claimed for the patented device. (Citing Cases).

"Normally the question of infringement is one of fact. In this case, however, since the facts are not in dispute the question of infringement resolves itself into one of law, depending on a comparison between the patent claim in issue and the accused device, and the correct application thereto of the law of equivalency." (Citing Cases).

See also: Filtex Corp. v. Atiyeh , 212 F.2d 443,
103 USPQ 197 (9th Cir., 1954).

In connection with the lower court's conclusion of non-infringement of Claim 11, Plaintiff respectfully submits that this conclusion of non-infringement cannot be affirmed because it is not supported by proper findings of fact. The only finding of fact which could be construed to relate to application of the Doctrine of Equivalents to Claim 11 is Finding No. 13 which is conclusionary and not a proper finding of fact.

The Limitations Of Narrow Claim 11 Cannot Be Read Into
Broader Claim 14.

As indicated by Finding No. 14 (CT. 43), Claim 14 is broader than Claim 11 in that it recites the vertical adjusting means in the router assembly in broad terms whereas Claim 11 defines the vertical adjusting means in terms of the specific screw threaded sleeve and screw threaded motor illustrated in Fig. 2.

Notwithstanding the fact that Claim 14 is broader than Claim 11, the lower court found in Finding No. 14 that

"it follows that Claim 14 is no broader in scope than Claim 11" contrary to a long line of precedents. See: Smith v. Snow, 294 U.S. 1, 24 USPQ 26 (Sup.Ct., 1935) where Mr. Justice Stone, speaking for a unanimous court said at 24 USPQ 31, 294 U.S. 13, 14.

"It is evident that Claim 1 does not prescribe that the current of air shall be propelled by any particular means, except that it shall be by means other than variation of temperature, nor does it prescribe that the means of propulsion shall be given any particular location, or that the current of air shall be guided by any particular means or given any particular direction. The omission of these requirements from Claim 1 is the more pointed as the other claims of the patent speak in particular of a power-driven fan, of the location of the fan, of curtains and a partition obviously intended to give direction to

the current of air, of a vertically directed current of air, and of air circulating from the bottom of the chamber into the parts of it occupied by the tiers of egg trays. Thus by striking and obviously intended contrast with other claims, Claim 1 covers broadly the essential elements of the Smith invention as we have already described it." (Emphasis added)

See also Kennedy v. Trimbel Nursery Yard Furniture, Inc., 99 F.2d 786, 39 USPQ 506 (2nd.Cir., 1938); Great Lakes Equipment Co. v. Fluid Systems, 217 F.2d 613, 104 USPQ 40 (6th.Cir., 1954); Cameron Iron Works v. Stekall, 242 F.2d 17, 112 USPQ 411 (5th.Cir., 1957); Stearns v. Tinker & Rasor, 252 F.2d 589, 116 USPQ 222 (9th.Cir., 1957); Hansen v. Colliver, 282 F.2d 66, 127 USPQ 32 (9th.Cir., 1960).

The error of the District Court in limiting Claim 14 to the scope of Claim 11 is apparent when we examine the reason why the lower court held the scope of Claim 11 to be narrow. Claim 11 recites the screw threaded arrangement

shown in Fig. 2, and the District Court held the claim to be entitled to only a narrow range of equivalents because Plaintiffs had never built the screw threaded arrangement. On the other hand, the definition of the vertical adjustment structure is much broader in Claim 14 and is broad enough to cover by its express terms the rack and pinion structure which is incorporated in the Defendants' machine and which was incorporated in the Plaintiff's second machine. Since Plaintiff has built and used commercially a structure falling within the definition of the vertical adjusting means in Claim 14 there is no reason for applying to Claim 14 the "paper patent" argument for a narrow range of equivalents.

CONCLUSION

For the above reasons, it is respectfully submitted that the judgment of the District Court holding Claims 4 and 5 not infringed should be reversed because the scope of claims which the Plaintiff seeks by way of judgment of this Court is no broader than and is fully commensurate with the scope represented to and understood by the Patent Office when the Patent Office granted the petition to make special. The decision of the District Court as to Claims 11 and 14 should be

reversed because the Defendants' rack and pinion is the full equivalent of the jack screw shown in Fig. 2 of Plaintiff's patent, and Claim 14 which is literally broader than Claim 11 must be given a scope which is also broader than Claim 11.

Dated: San Francisco, California

October 18, 1967.

Respectfully submitted,

NAYLOR & NEAL

Karl A. Limbach, Esquire

By

Karl A. Limbach
Attorney for Appellant

CERTIFICATE OF COUNSEL

I certify that, in connection with the preparation of this Brief, I have examined Rules 18, 19 and 39 of the United States Court of Appeals for the Ninth Circuit, and that, in my opinion, the foregoing Brief is in full compliance with those Rules.

Karl A. Limbach
Attorney for Appellant

CERTIFICATE OF SERVICE BY MAIL

I hereby certify that I have mailed three copies of the foregoing Brief to Harvey G. Lowhurst, 2500 El Camino Real, Palo Alto, California, this 18th day of October, 1967.

Karl A. Limbach
Attorney for Appellant

APPENDIX I

4. Apparatus for making three dimensional topographical models which comprises:

a support frame having;

a generally horizontal table thereon adapted to support a reverse print of a topographical map representing the model which is to be made;

work holding means rigidly mounted on said frame above said table for supporting above said table a mass of material from which said model is to be made;

a tool carrier resting on said table and freely movable over the surface of said table;

an electric motor mounted on said tool carrier and having;

a tool receiving chuck mounted thereon for rotation about a generally vertical axis responsive to operation of said motor,

a rotary tool received in said chuck and projecting upwardly from said motor and movable over said table with said carrier, said tool generating a cylindrical cutting shape responsive to operation of said motor,

THEORY

The first part of the paper is devoted to the derivation of the general form of the solution of the problem. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

The second part of the paper is devoted to the derivation of the explicit form of the solution. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

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The fourth part of the paper is devoted to the derivation of the explicit form of the solution. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

The fifth part of the paper is devoted to the derivation of the explicit form of the solution. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

The sixth part of the paper is devoted to the derivation of the explicit form of the solution. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

The seventh part of the paper is devoted to the derivation of the explicit form of the solution. It is shown that the solution can be written in the form of a series of terms, each of which is a function of the coordinates and time. The first term of the series is the solution of the homogeneous equation, and the remaining terms are the solutions of the inhomogeneous equation.

a generally circular stylus mounted on said carrier adjacent to said table with said stylus being coaxial with said axis of rotation of said chuck and having a diameter substantially equal to the diameter of said cutting shape and with both said chuck and said stylus positioned between said table and said work holding means; and,

adjusting means forming a part of said carrier for changing the distance between said cutting tool and said table.

5. The apparatus of Claim 4 characterized further in that said tool is mounted on said motor in fixed space relation to said motor axially thereof, and said adjusting means comprises means for moving said motor with respect to said carrier along a direction generally parallel to said axis of rotation.

11. A tool for making three dimensional topographical models which comprises:

a frame having;

a base portion adapted to rest on and be moved freely over a flat surface;

an internally threaded sleeve rigidly mounted on said base portion and having a central axis generally perpendicular to said base portion;

an electric motor threadedly received in said sleeve and having;

a tool receiving chuck extending therefrom away from said base portion and rotatable about said axis responsive to operation of said motor,

a rotary tool received in said chuck and generating a cylindrical cutting shape responsive to operation of said motor; and,

a generally cylindrical stylus mounted on said frame between said base portion and said motor and having a generally circular stylus end adjacent to said base portion with said stylus end being coaxial with said axis and having a diameter substantially equal to the diameter of said cutting shape.

14. A tool for making three dimensional topographical models which comprises:

a frame having;

a base portion adapted to rest on and be moved freely over a flat surface;

a body portion mounted on the base portion;

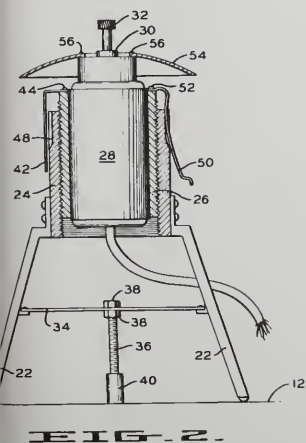
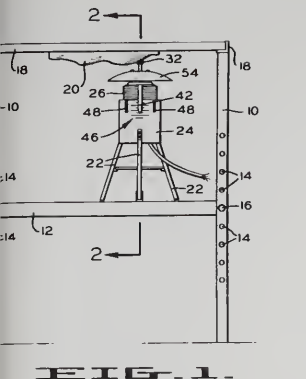
a router mounted on said body portion and having;

a cutting tool thereon facing away from said base portion with said router positioned for rotating said tool about an axis generally perpendicular to the flat surface on which said base portion rests;

adjustable connecting means interconnecting said router and said body for adjustably positioning said router as a plurality of different positions along said axis; and,

a generally cylindrical stylus mounted on said base portion adjacent to the surface on which said base portion rests with said stylus having a circular end coaxial with said axis and equal in diameter to the diameter of said tool.

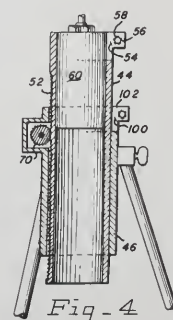
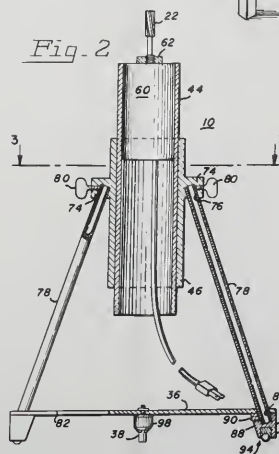
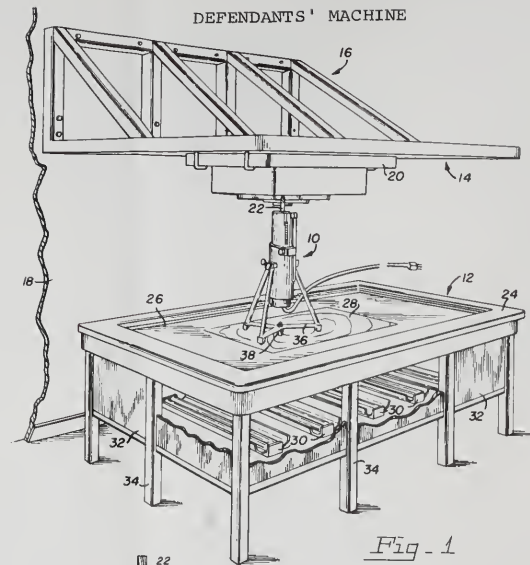
TIFF'S MACHINE



Claim 4

The frame called for by Claim 4 is indicated by number 10 in Plaintiff's machine and number 18 in Defendants' machine. The table is numbered 12 in Plaintiff's machine and 12 in Defendants' machine. The work holding means is numbered 18 in Plaintiff's machine and 14 in Defendants' machine. The tool carrier is the entire device illustrated in Fig. 2 for Plaintiff's machine and the device number 10 in Fig. 1 and illustrated in Figs. 2 and 4 for Defendants' machine. The electric motor is numbered 28 in Plaintiff's machine and 60 in Defendants' machine. The tool receiving chuck is numbered 30 in Plaintiff's machine and 62 in Defendants' machine. The rotary tool is numbered 32 in Plaintiff's machine and 22 in Defendants' machine. The stylus is numbered 40 in Plaintiff's machine and 38 in Defendants' machine. The adjusting means forming part of the carrier for changing the distance between the cutting tool and the table comprises the threaded connection between elements 24 and 26 in Plaintiff's machine and comprises the rack 52 and pinion gear 70 in Defendants' machine.

DEFENDANTS' MACHINE



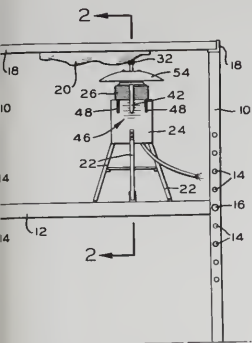


FIG. 1.

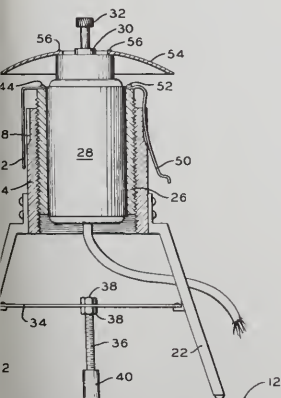


FIG. 2.

The structural elements recited in Claim 14 are found in the two machines as follows: the frame includes the legs 22 in Plaintiff's machine and the feet 88 in Defendants' machine. The body portion is numbered 24 in Plaintiff's machine and 46 in Defendants' machine. The router is numbered 28 in Plaintiff's machine and 60 in Defendants' machine. The cutting tool is numbered 32 in Plaintiff's machine and 22 in Defendants' machine. The adjustable connecting means interconnecting the router and the body comprises the threads on the inside of element 24 and the outside of element 26 in Plaintiff's machine and comprises the gear teeth on the rack gear 52 and pinion gear 70 in Defendants' machine. The stylus is number 40 in Plaintiff's machine and 38 in Defendants' machine.

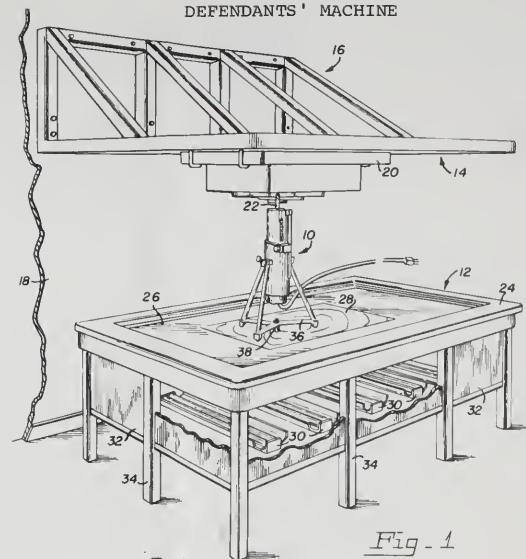


Fig - 1

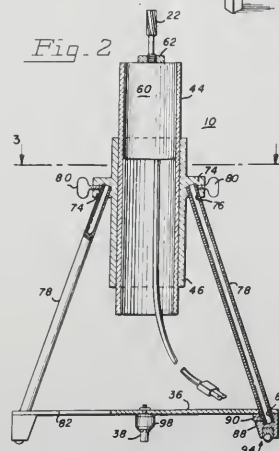


Fig - 2

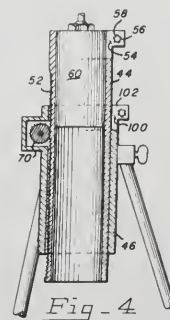


Fig - 4

Claim 5

Claim 5 does not recite any new structural elements not recited in Claim 4 but merely recites a physical relation between the structural elements by requiring that the motor is mounted in the tool carrier to be moved vertically up and down.

Claim 11

Claim 11 is similar to Claim 14 but more detailed in its definition of the vertical adjusting means. Claim 11 requires that the body 24 (called a sleeve in the claim) be internally threaded and that the motor 26-28 be externally threaded. The body or sleeve 26 in Defendants' machine has internal threads only where the pinion gear 70 projects to the interior of the body 46, and the motor 60 with its outer sleeve 44 is externally threaded only along the line of rack gear 52 where it contains gear teeth.

APPENDIX III

Exhibit Index

<u>Plaintiff's Exhibits</u>	<u>Description</u>	<u>Identified</u>	<u>Introduced In Evidence</u>
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N	Letter Lowhurst to Limbach	630	636
O	Sketch by Mr. Naylor	57	99
Q	Copy Drawing Fig. 1 Neklason Pat. Appln.	80	99

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Y	Photograph of Queen Emma Model	328	440
AA	Photo Anshen & Allen Model	329	440
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KK	Topographical Map	36	101
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WW	Sheet of Paper Showing Blackboard Chart	318	443

<u>Defendants'</u> <u>Exhibits</u>	<u>Description</u>	<u>Identified</u>	<u>Introduced</u> <u>In Evidence</u>
2	File Wrapper	161	163,445
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